IN THE CLAIMS:

The status and content of each claim follows.

1. (original) A method of forming a thin-film fuel cell electrode, comprising:

providing a substrate and at least one deposition device;

developing a deposition characteristic profile having at least one porous layer based on pre-determined desired electrode properties; and

forming a film in accordance with said deposition characteristic profile by depositing material from said deposition device while varying a relative position of said substrate in relation to said deposition device with respect to at least a first axis.

2. (original) The method of claim 1, wherein forming said film further comprises varying a power supplied to said deposition device.

3. (original) The method of claim 1, wherein forming said film further comprises varying a bias of said substrate to a deposited material.

4. (original) The method of claim 1, wherein forming said film further comprises varying an applied magnetic field.

5. (original) The method of claim 1, wherein varying said relative position comprises advancing said substrate along a substrate advancement path.

6. (original) The method of claim 1, wherein varying said relative position comprises varying a speed with which said substrate passes said deposition device.

7. (original) The method of claim 1, wherein varying said relative position comprises varying a distance at which said substrate passes said deposition device.

8. (original) The method of claim 7, wherein varying said relative position further comprises varying a speed with which said substrate passes said deposition device.

9. (original) The method of claim 1, wherein varying said relative position comprises traversing said substrate back and forth past said deposition device.

10. (original) The method of claim 9, wherein varying said relative position further comprises varying a distance in multiple directions.

11. (original) The method of claim 10, wherein varying said relative position further comprises varying a speed with which said substrate passes said deposition device.

12. (currently amended) A method of forming a thin-film fuel cell electrode, comprising:

providing a substrate and at least one deposition device;

developing a deposition characteristic profile having at least one porous layer based on pre-determined desired electrode properties; and

forming a film in accordance with said deposition characteristic profile by depositing material from said deposition device while varying a relative position of said substrate in relation to said deposition device with respect to at least a first axis;

~~The method of claim 11,~~ wherein said deposition characteristic profile comprises at least a composition gradient profile and at least one morphological gradient profile.

13. (original) The method of claim 12, wherein said morphological profile comprises alternating dense film layers and porous film layers having nano-chambers.

14. (original) The method of claim 13, wherein said deposition device comprises a sputter gun.

15. (original) The method of claim 1, further comprising providing a second deposition device and depositing a second material from said second device onto said substrate while varying the relative position of said substrate in relation to said second deposition device with respect to at least a first axis.

16. (original) The method of claim 15, wherein forming said film further comprises varying a power supplied to said deposition device.

17. (original) The method of claim 15, wherein forming said film further comprises varying a bias of said substrate to a deposited material.

18. (original) The method of claim 15, further comprising varying a distance between said deposition devices.

19. (original) The method of claim 15, wherein forming said film further comprises varying an applied magnetic field.

20. (original) The method of claim 15, wherein varying said relative position comprises advancing said substrate along a substrate advancement path.

21. (original) The method of claim 15, wherein varying said relative position comprises varying a speed with which said substrate passes said deposition device.

22. (original) The method of claim 15, wherein varying said relative position comprises varying a distance between said deposition devices.

23. (original) The method of claim 22, wherein varying said relative position further comprises introducing the use of shutter to selectively block at least a portion of a material expelled from at least one of said deposition devices.

24. (original) The method of claim 15, wherein varying said relative position comprises traversing said substrate back and forth past said deposition device.

25. (original) The method of claim 24, wherein varying said relative position further comprises varying a distance in multiple directions.

26. (original) The method of claim 25, wherein varying said relative position further comprises varying a speed with which said substrate passes said deposition device.

27. (original) The method of claim 26, wherein said deposition characteristic profile comprises at least composition gradient profile and at least one morphological gradient profile.

28. (original) The method of claim 27, wherein morphological profile comprises alternating dense film layers and porous film layers having nano-chambers.

29. (original) The method of claim 28, wherein said deposition devices comprise sputter guns.

30. (original) The method of claim 15, further comprising varying the distance between said deposition devices.

31. (original) The method of claim 15, wherein forming said film comprises introducing the use of second and third deposition devices.

32. (original) The method of claim 31, wherein forming said film comprises varying a speed with which said substrate passes said deposition devices.

33. (original) The method of claim 32, wherein forming said film comprises varying a substrate advancement path of said substrate with respect to said deposition devices.

34. (original) The method of claim 1, wherein said electrode comprises an anode.

35. (original) The method of claim 34, wherein said anode is formed from a group consisting of nickel, platinum, Ni-YSZ, Cu-YSZ, Ni-SDC, Ni-GDC, Cu-SDC, Cu-GDC.

36. (original) The method of claim 1, wherein said electrode comprises a cathode.

37. (original) The method of claim 36, wherein said cathode is formed from a group consisting of silver, platinum, samarium strontium cobalt oxide (SSCO, $Sm_xSr_yCoO_{3-\delta}$), barium lanthanum cobalt oxide (BLCO, $Ba_xLa_yCoO_{3-\delta}$), gadolinium strontium cobalt oxide (GSCO, $Gd_xSr_yCoO_{3-\delta}$), lanthanum strontium manganite ($La_xSr_yMnO_{3-\delta}$) and lanthanum strontium cobalt ferrite ($La_wSr_xCo_yFe_zO_{3-\delta}$) and mixtures thereof.

38-66. (cancelled)

67. (new) The method of claim 12, wherein forming said film further comprises varying a power supplied to said deposition device.

68. (new) The method of claim 12, wherein forming said film further comprises varying a bias of said substrate to a deposited material.

69. (new) The method of claim 12, wherein forming said film further comprises varying an applied magnetic field.

70. (new) The method of claim 12, wherein varying said relative position comprises varying a speed with which said substrate passes said deposition device.

71. (new) The method of claim 12, wherein varying said relative position comprises varying a distance at which said substrate passes said deposition device.

72. (new) The method of claim 12, further comprising providing a second deposition device and depositing a second material from said second device onto said substrate while varying the relative position of said substrate in relation to said second deposition device with respect to at least a first axis.

73. (new) The method of claim 12, wherein said electrode comprises an anode.

74. (new) The method of claim 12, wherein said electrode comprises a cathode.

75. (new) A method of forming a thin-film fuel cell electrode, comprising:

providing a substrate and at least one deposition device;

developing a deposition profile for a film, wherein said profile includes a film porosity modulation based on predetermined desired electrode properties; and

forming said film in accordance with said deposition profile by depositing material from said deposition device in accordance with said deposition profile.

76. (new) The method of claim 75, wherein said deposition profile further comprises a varying film composition in connection with said film porosity modulation.

77. (new) The method of claim 75, wherein said film porosity modulation increases a catalytic reaction rate of said electrode.

78. (new) The method of claim 75, wherein forming said film further comprises varying a power supplied to said deposition device.

79. (new) The method of claim 75, wherein forming said film further comprises varying a bias of said substrate to a deposited material.

80. (new) The method of claim 75, wherein forming said film further comprises varying an applied magnetic field.

81. (new) The method of claim 75, wherein forming said film in accordance with said deposition profile comprises varying a relative position of said substrate with respect to said deposition device.

82. (new) The method of claim 81, wherein varying said relative position comprises varying a speed with which said substrate passes said deposition device.

83. (new) The method of claim 81, wherein varying said relative position comprises varying a distance at which said substrate passes said deposition device.

84. (new) The method of claim 75, further comprising providing a second deposition device and depositing a second material from said second device onto said substrate while varying a relative position of said substrate in relation to both said first and said second deposition devices.

85. (new) The method of claim 75, wherein said electrode comprises an anode.

86. (new) The method of claim 75, wherein said electrode comprises a cathode.